ATTACHMENT - REMARKS

By this Amendment, independent claims 17, 27, 28 and 44 have been amended for clarity and to better conform with US practice. Other dependent claims have also been amended consistent with the changes to their independent claim and/or for clarity or canceled. It is submitted that the present application is in condition for allowance for the following reasons.

RESTRICTION

Initially in the Detailed Action, the examiner has made the previous restriction requirement of withdrawn claims 1-16 and 29-43 final, now using Sakata as a reference showing the common inventive concept. This new basis for the restriction is also traversed.

In making the analysis of the teachings of the Sakata, the examiner has grossly misinterpreted the teachings of Sakata. While Sakata does disclose the various elements noted by the examiner (as labeled in the figure provided by the examiner in the Action), these elements do not function as specifically alleged by the examiner and as claimed in the present invention, as made plain by Sakata. In particular, in the Action the examiner states:

> Sakata et al discloses the stress measuring device comprising: . . . ; B). A spectroscopy unit that analyzes light generated from the specimen by irradiation with the electron beam so as to obtain a spectrum of the generated light (See Abstract; Raman Spectrum requires a Spectroscopy unit & See both [0007] & [0012] & [0013]), [See paragraph 3, emphasis added].

However, Sakata clearly teaches instead that:

> A sample 6 is irradiated with an electron beam 2 emitted from an electron gun 1, and the generated secondary electron is detected by a detector 7, and the surface shape of the sample 6 is displayed by an image processing device 9. The sample 6 is irradiated with the laser beam emitted from a laser beam source 10, and the generated Raman scattering beam is detected by [spectroscope 15 leading to] a detector 16, and the obtained Raman spectrum is read by a computer 8. [See the Abstract, or paragraphs 0012-0013 of the specification to the same effect – Emphasis added.]

This is consistent with the rest of Sakata, including the other paragraph noted by the examiner, and including the figure provided by the examiner in the Action (where it will be noted, the electron beam and laser beam are coaxial, but that does not show or teach that the electron beam has anything to do with the spectroscope/detector 15/16 which analyzes the laser light produced Raman scattering).

Therefore, it is completely incorrect to say that the Sakata teaches a "spectroscopy unit that analyzes light generated from the specimen by irradiation with the electron beam" as alleged by the examiner in support of the restriction requirement (and as later asserted in the art rejection). Therefore, the restriction requirement should be withdrawn and the withdrawn claims now joined and examined (and allowed with the examined claims as similar subject matter is claimed).

CLAIM REJECTIONS - 35 USC § 112

In the *Claim Rejections - 35 USC § 112* section of the Office Action, all of the claims were rejected as being indefinite, with comments directed to five specific claims. In response to the various claims particularly noted, the following actions have been taken.

Claim 21. This claim has been canceled.

Claims 22 and 24. These claims have been amended to better recite the relationship between the claimed elements.

Claims 52-53. These claims (and claim 51) have been canceled.

Claims 17-28 and 44-57. These claims, all of the examined claims, were generally rejected because the "relationship between the components is unclear" (top of page 5). Such a general rejection of all claims seems excessive, particularly where there are only a few elements whose relationship is quite clear to those of ordinary skill. However, in an effort to promote prosecution of this application, the various claims have been amended to further reinforce the evident relationships and generally to better adapt the claims for US practice. Should the examiner have any further indefiniteness problems with the claims, it is requested that at least some specific examples of the types of problems be given so that those specific problems can be addressed.

In view of the claim changes made and the above comments, it is submitted that the rejection of the claims under § 112 has been overcome so that the rejection should now be withdrawn.

CLAIM REJECTIONS - 35 USC § 102 & 103

In the *Claim Rejections - 35 USC § 102* section, independent claims 17, 27, 28 and 44, as well as dependent claims 18, 20-24, and 56, were all rejected under 35 USC § 102 as being anticipated by Sakata. However, for the following reasons, it is submitted that these claims are all allowable over this reference.

The present invention as now more clearly recited in the examined independent claims relates to the principles of stress measurement in a specimen. Thus, the invention is now so characterized; and further characterized by irradiating an electron beam onto a specimen (independent claims 17 and 44) and/or analyzing the spectrum of light to be generated from the specimen in a stress measurement (independent claims 17, 27, 28 and 44). In addition, the invention of the subject application enables a stress measurement with high sensitivity, being able to confine the probed area to a small volume (e.g., smaller than few cubic nanometers) (independent claims 27 and 28). These characteristics are as have been described in greater detail, in the BACKGROUND ART section and the DISCLOSURE OF THE INVENTION section of the application (see especially page 3, line 18 to page 8, line 12 of the filed application, or corresponding paragraphs [0012] to [0024] of the published application).

Sakata cited in the Office Action, and as described in the Background Art section of the present application, teaches a stress measurement based on the conventional Raman spectroscopy, which completely differs in the fundamental principle from the stress measurement of the invention of the present application . More specifically, Sakata is used for irradiating light, that is a laser light, onto a specimen to observe the spectrum thereof. This clearly differs from the invention of the present application as set forth in independent claims 17 and 44, which recites irradiating an electron beam onto a specimen to observe the light spectrum generated by the electrons hitting the specimen.

It will be appreciated that although Sakata describes emitting an electron beam from an electron gun 1 and irradiating the electron beam onto a specimen 6, this

teaching is for the express purpose of detecting secondary electrons from the specimen in order to determine and specify a measuring position on the specimen. It is assuredly not for carrying out a stress measurement by an electron beam as recited in independent claims 17 and 44 of the present application. Moreover, in Sakata, the stress measurement is taught to be carried out by a laser light 11 emitted from a laser light source 10 which laser light is irradiated onto a specimen, and a Raman scattered light thereof is reflected by a half-mirror 14 to be analyzed by a spectroscope 15. Thus, it is again made clear that an electron beam is not involved at all in the stress measurement of Sakata, and the electron beam is merely used for visualizing a measuring position as noted above.

In addition, what Sakata merely describes is the common usage of an electron microscope for carrying out a stress measurement by use of conventional Raman spectroscopy, where irradiating of an electron beam onto a specimen is used to visualize a measuring position thereof, and thereafter detecting secondary electrons thereof for this purpose. Accordingly, in Sakata, a stress measurement is merely carried out by the conventional Raman spectroscopy only. The subject matters described in the above are as have also been described particularly in claim 1 and in the Abstract of Sakata.

In contradistinction to the disclosure of Sakata, the invention of the present application is not for irradiating an electron beam on a specimen to detect secondary electrons from a location of a specimen as in Sakata, but instead for analyzing the spectrum of the light generated directly by the electrons irradiating the specimen in order to carry out a stress measurement with the generated light. Accordingly, both the

inventions of Sakata and the present application are completely different in intended use and effects of an electron beam, so that independent claims 17 and 44 are clearly neither disclosed nor made obvious by the teachings of Sakata.

In independent claims 27 and 28, a stress measuring device in accordance with the present invention for measuring a stress on a specimen is provided which uses a light irradiating unit that irradiates a specimen with irradiating light. Then, a spectroscopy unit analyzes the light generated from the specimen so as to obtain a spectrum of the generated light, whereby a stress calculating unit calculates a stress change in the specimen based on a shift of the spectrum of the generated light obtained as the specimen is irradiated with the light from the irradiating unit when the specimen is in a predetermined state and when the specimen is in a state different from the predetermined state. Next, the light irradiating unit includes a broad area light irradiating device that irradiates the irradiating light on a broad area of the specimen that is broad compared with a smaller spot size of the irradiating light that is narrowed down to obtain a requested space resolution. In claim 27, the stress calculating unit is adapted to use the spectrum obtained from the broad area irradiating unit as the predetermined state where no stress exists in the specimen; while in claim 28, the stress calculating unit is adapted to use an average of spectra of the generated light from the specimen in the broad area as the spectrum in the predetermined state where no stress exists in the specimen.

The above specific features of independent claims 27 and 28 are also not shown by Sakata as evident from the discussion above of Sakata, so that claims 27 and 28 are also neither disclosed nor made obvious by the teachings of Sakata.

Therefore, for all of the foregoing reasons, it is submitted that independent claims 17, 27, 28 and 44 are neither disclosed nor made obvious by Sakata so that these claims are all allowable over Sakata. For at least these same reasons, it is submitted the remaining claims which are all dependent on independent claims 17 or 44 are likewise allowable.

In the Claim Rejections - 35 USC § 103 section, dependent claims 19-20, 25-26, 47-53 and 57 were all rejected under 35 USC § 103 as being obvious over Sakata in view of Pezzotti (1999). However, Pezzotti (1999) also merely discloses a stress measurement based on the conventional Raman spectroscopy, the same as with Sakata. In addition, an image obtained through an electron microscope (SEM) is shown in Fig. 1 of Pezzotti (1999), however, this merely shows a microstructure of ceramic, which is merely a common usage form of an electron microscope. Accordingly, Pezzotti (1999) does not at all disclose a stress measurement of the invention of the present application as further recited in the noted claims. Moreover, in the invention of the present application, an SEM is merely one means for irradiating an electron beam, and the SEM itself is not important, but the principle of stress measurement using an electron beam is important.

In summary, Sakata and Pezzotti (1999) both merely describe a stress measurement by the conventional Raman spectroscopy different from that of the subject application, and consequently, the invention of the present application of dependent claims 19-20, 25-26, 47-53 and 57 cannot be made obvious by any combination of both references.

For all of the foregoing reasons, it is submitted that the present application is in condition for allowance and such action is solicited.

Respectfully submitted,

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